ABSTRACT OF THE DISCLOSURE

A half wave dielectric resonator assembly including a resonator cavity having a top surface and a bottom surface, an elongated cylindrical dielectric resonator positioned within said resonator cavity and first and second insulative supports to couple and insulate the ends of the cylindrical dielectric resonator from the resonator cavity. The dielectric resonator has a substantially small diameter to length ratio. The resonator assembly provides improved spurious performance and quality factor (Q) at a lower mass. A resonator filter is constructed using a plurality of these resonator assemblies, where adjacent pairs of said resonator cavities are separated from each other by a common cavity wall. By forming a first iris opening formed within a first common cavity wall and forming a second iris opening formed within a second common cavity wall having a position that is vertically offset from the position of the first iris, it is possible to reduce stray coupling.